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**Sagi et al.**

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(54) **LARGE VOLUME TEST APPARATUSES AND METHODS FOR DETECTION OF SMALL DEFECTS**

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(57) **ABSTRACT**

A system for detecting leaks is provided comprising an accumulator, a flow controller in communication with the accumulator, and a flow meter/sensor in communication with the accumulator, the flow controller and a UUT. The flow meter is structured to supply gas from the accumulator to the UUT and measure a flow rate of the supplied gas, the flow meter providing feedback to the flow controller representing the flow rate, and the flow controller responding to the feedback by supplying flow compensation gas to the accumulator to maintain a desired pressure in the accumulator. Methods are also provided for detecting small leaks, especially with large units under test (“UUTs”).

**24 Claims, 3 Drawing Sheets**

